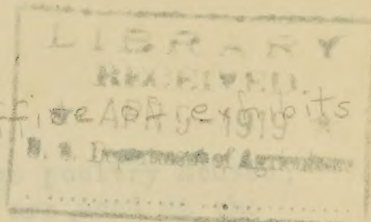


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EDUCATIONAL AGRICULTURAL EXHIBIT FROM THE
U. S. DEPARTMENT OF AGRICULTURE.



In compliance with the requirements of agreement entered into between the International Committee of Young Men's Christian Associations and the Departments of War and Agriculture, executed February 3, 1919, wherein the party of the second part (Department of Agriculture) agreed to furnish the services of a specialist to plan agricultural educational exhibits to be displayed at army cantonments in France, which exhibits were to cover 3000 square feet of floor space, I have now to state that the exhibits were designed, planned, manufactured and on March 18, 1919, were completed and delivered to the War Department for shipment to A. E. F., General Headquarters, Chaumont, France, in accordance with directions furnished by the International Committee of Young Men's Christian Associations.

The exhibits were made in quadruplicate, the plan being to divide them into four identical lots for display at different army cantonments in France. The exhibits themselves consisted of photographs, bromide enlargements, and various charts and diagrams, all of which were installed upon 112 screens; miscellaneous items of various classes of exhibit material installed in twenty-eight cabinets, and about seventy models illustrating subjects of agricultural interest for the display of which sixty-four tables were constructed. These screens, cabinets, tables, etc., were placed in 154 boxes, or crates, for shipment, the total weight of the same being 46,538 pounds, occupying a space of 4380 cubic feet. There were thirty-nine boxes and crates weighing about three and one-quarter tons, for display in each one of the four circuits.

These exhibits were made up from the standpoint of the practical needs and problems of the general farmer and especially selected for the educational work being carried on among our soldiers in France by the International Committee of the Young Men's Christian Associations.

SYNOPSIS OF THE EXHIBITS.

Classified by the Bureaus Represented.

The Weather Bureau.

The Weather Bureau exhibits are designed to educate our soldier citizens to observe climatic conditions in their relation to farming industries and to show them the various instruments used by the Weather Bureau in preparing their records of weather conditions: Barometers, thermometers, storm warning signals and other appliances used; charts illustrating rain fall, early and late frosts, etc., throughout the United States; photographs showing types and methods of installation of various heating devices for the protection of fruit orchards from early or late frosts; and a model of a farm house, showing how such a building may be economically and effectively wired for protection against lightning, constitute the exhibit from this Bureau.

Bureau of Animal Industry.

Models showing properly constructed small and large poultry houses, models of poultry feed hoppers and simple trap nests such as are used at the Government poultry farm for laying hens, are all practical and interesting exhibits from this Bureau. In addition there are several panels upon which are enlarged bromides illustrating various breeds of poultry and other subjects relating to the poultry industry. A model of a farm sterilizer used in sterilizing milk cans, etc. is included in the exhibit, and also a number of bulletins treating on subjects relating to the Bureau's work.

Plant Industry.

In each of the four circuits the Bureau of Plant Industry has three exhibition cabinets and six panels. Installed in the cabinets are samples showing thirty-two varieties of corn from all sections of the United States, and publications relative to seed selection, culture, harvesting and storage of corn; twenty varieties of hard and soft wheats, in the sheaf and in bulk, together with two of the most important wheat diseases. Publications relating to wheat culture and cereal diseases are shown in this connection. The cereal exhibit also includes nine of the principal barley varieties and six of the principal varieties of oats, together with samples illustrating diseases affecting these grains. This cereal exhibit has been prepared so that, in addition to its educational value, it presents an attractive appearance, the samples being most artistically arranged.

This Bureau presents a large number of photographs and bromide enlargements, which are neatly arranged upon the panels, many of them being very finely colored. Two of the screens illustrated phases of the investigations of Indian Corn being carried on by the Bureau while others relate to general cereal investigations, forage crops, fruit culture, principally apples, and potato cultivation.

Forest Service.

The exhibit of the Forest Service covers five subjects, namely, woodland improvement, marketing of woodland products, land erosion, forest fires, and tree windbreaks. These subjects are illustrated, in each circuit, by one elaborately constructed model, five panels and two cabinets in which are installed various materials illustrating woodland products.

The woodland improvement model contrasts a typical badly managed, or unmanaged woodland, with one which is well managed and highly productive. All of the important features of the two types are clearly brought out in miniature. The unmanaged woodland shows a woods in which the best trees have been cut out, leaving the inferior growths, diseased and over-mature trees, none of which will make material of very great value. Stock has been allowed to run through the whole woodland, trampling the young trees underfoot, browsing on the tender shoots, uncovering the roots, and cutting up the slopes so that the rain falling on them makes the soil erode, forming gullies and laying bare the rock and mineral soil in which reproduction can not take place. The other side of the model

shows a woodland which has been well managed for a number of years, the trees growing closely together, forming straight long boles free from branches and knots which will produce material of the highest market value. The poorer kinds of trees have been cut out, leaving nothing but the best and most valuable species. A section of the woods has been set aside for shading the stock. The ground under the trees is covered with leaves which, with the deep humus underneath, absorb the water from the falling rain allowing it to seep into the soil and run out slowly as clear water into springs and streams.

This model is supplemented by a panel containing a series of charts and colored bromide enlargements showing woodlands of various types.

In two cabinets are installed various products of the woodland for which good prices are paid, such as handles, spokes, tanbark, cooperage stock, etc. Labels emphasize the importance of selling material suited for the manufacture of such articles to the wood-using industries in the market for them instead of selling the trees for other purposes, at a cheaper price and for which less valuable material is suitable.

Forest fires, the results of erosion from de-forestation, the treating of farm timbers, fence posts, etc., for preventing decay and the methods of using trees for farm windbreaks to protect stock, crops, etc. are all profusely illustrated by bromide enlargements, many of which are most attractively colored, upon panels provided for the purpose.

Bureau of Chemistry.

The exhibit of the Bureau of Chemistry shows by adequate samples in glass containers, various feed stuffs and concentrates. These include typical commercial cattle, swine, horse and poultry feeds produced in various parts of the country, and concentrates from by-products that come from the various industries specified on the labels. These exhibits are installed in one of the standard cabinets and are accompanied by charts showing the composition of the various feeds displayed. In addition to this cabinet exhibit, which accompanies each circuit, an egg candling device is shown and models of four simple home-made egg candler, accompanied by a chart showing the eggs before the candle and out of the shell in various stages of development of decomposition.

Bureau of Soils.

The exhibits of the Bureau of Soils fill two panels and one cabinet in each circuit. Upon the panels are charts, photographs and soil samples illustrating the principal soil types such as truck, fruit, corn belt, cotton belt, soils of the dairy regions and of the great plains. These various photographs and samples are tastefully arranged, making a very pleasing exhibit, as well as one full of instruction and interest.

In the display cabinet are installed in suitable containers, the component particles of soils such as fine gravel, coarse sand, medium sand, fine sand, very fine sand, silt and clay: ten samples of representative American soils; a map of the soil provinces of the United States; a map showing the progress of the soil survey work; the physical analysis of a typical loam soil, showing percentages of each element; some of the important publications of the Bureau of Soils.

and a photograph of the apparatus used in the mechanical analysis laboratory.

Bureau of Entomology.

The exhibits from this Bureau have been prepared for the express purpose of bringing to the attention of the prospective agriculturist the fact that there are important insect pests which the farmer must combat, that there are means of successfully combating these pests and that appliances and materials have been devised for this purpose. The exhibit material consists of photographs or bromide enlargements illustrating the most important insect pests and methods of control, insecticidal materials in glass containers and spraying devices of various kinds used by the practical entomologist.

There are pictures covering the main lines of work of the Bureau most closely related to the general farmer's needs; there are photographs illustrating up-to-date methods of bee keeping; others showing how insects carry on their work of destruction; the use of spraying devices for combating insects and the results or benefits obtained by spraying; the control of insects affecting fruit products, those affecting man and domestic animals and those which carry or spread infectious diseases. In each circuit there are two panels upon which the photographs and bromide enlargements are displayed and a cabinet in which are installed samples of the various chemicals used to destroy insects.

This Bureau displays four models, namely, the Bishop Fly trap, the Ebert Submersible Automatic Oil Bubbler for use in prevention of mosquito breeding, the Hutchinson Maggot trap to destroy the larvae of flies and a grasshopper trap, which is principally used in the plains region of the West. These models and the spraying appliances, powder guns, etc. will be displayed upon tables accompanying the exhibit.

Bureau of Public Roads.

In each circuit the Bureau of Public Roads will display five models and twenty-four photographs or bromide enlargements illustrating different phases connected with the work of the Bureau.

Three of the models illustrate the manner of construction of three ordinary types of roads, the earth road, the sand clay road and the gravel road. These models show the making of roads from the preparation of the foundation to the finished surface. There is one model which illustrates the various types of foundations for bituminous macadam and other types of improved roads and different methods of road drainage.

The other model, called the "farmstead model", shows the character and arrangement of buildings for a diversified farm of from 160 to 320 acres. The working plans for these buildings, as well as for a large number of other farm structures and farmstead layouts may be obtained by application to the Bureau of Public Roads. Publications relating to road construction represented in the models shown, as well as other types of road building, are also supplied by the Bureau.

The photographs or bromide enlargements are installed upon two panels

and they represent, among other things, farm buildings, drainage, terracing and irrigation.

Farm Management.

The Office of Farm Management exhibits consist of three panels carrying charts giving cost data for various types of farming such as truck, dairy, cotton, wheat, corn and general farming; one panel showing statistical maps taken from the Agricultural Atlas. This panel also contains crop maps showing growing seasons for various sections of the United States.

Referring to the synopsis of the exhibits from this

Department for shipment to France, dated March 25, 1919, please

substitute for page five (5), the copy enclosed, which corrects

the statement regarding the exhibit from the Office of Farm Man-

agement.

Expert on Exhibits.

F. L. A.

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C.

OFFICE OF EXHIBITS

March 31, 1919.

IMPORTANT

Referring to the synopsis of the exhibits from this
Department for shipment to France, dated March 26, 1919, please
substitute for page five (5), the copy enclosed, which corrects
the statement regarding the exhibit from the Office of War Man-
agement.

F. L. S.

and they represent, among other things, farm buildings, drainage, terracing and irrigation.

Farm Management.

The Office of Farm Management exhibits consist of three panels carrying charts giving a summary of the farm business, showing farm area, crop area, investment, receipts, expenses, farm income, labor income, animal units, work stock, etc., for various types of farming such as truck, dairy, cotton, wheat, corn and general farming; one panel showing statistical maps taken from the Agricultural Atlas. This panel also contains crop maps showing growing seasons for various sections of the United States.

Experts on Exhibits.

Washington, D. C.

March 26, 1919.

